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METHOD AND APPARATUS FOR BUYER IDENTIFICATION

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BACKGROUND OF THE INVENTION

Technical Field of the Invention

The present invention relates to methods for
identification of a buyer during a face to face sales
5 transaction, and more particularly, to a method for
electronically establishing an identity of a buyer during a
face to face sales transaction.

Description of Related Art

Transactions within a physical store are accomplished
10 using cash payments, invoicing, check payments or credit
cards. The development of technologies in the mobile

telephone and electronic personal device area have also presented the potential for the use of these components as payment devices in addition to their normal functions. The major problem encountered within transactions in which cash is not exchanged between a buyer and seller is the necessity to properly identity the buyer in a secure manner. Identification is needed when a buyer and seller require one of the parties to be identified. For example, if a transaction is completed between more than one buyer and/or seller, the parties need to ascertain that each party is who they say they are.

Existing methods of identification include 1) a buyer identifying himself to a seller by means of an identity card, 2) a buyer signing a document stating the buyer's identity, 3) via a third party identifying the buyer, 4) via a previously agreed code or visible decal stating the identity of the buyer. Unfortunately, none of these methods are particularly well adapted to a personal device such as a mobile telephone or electronic personal device. Furthermore, each of these methods are subject to fraud on the part of the buyer who may lie about their identity or have stolen a previously agreed code or decal identifying the buyer. Thus, there is a need for an improved buyer identification

apparatus and method which may ideally be implemented in electronic personal devices and mobile telephones.

SUMMARY OF THE INVENTION

5 The present invention comprises a method and apparatus for enabling an identification of a buyer during a transaction. An electronic portrait of a buyer is generated and stored within an electronic personal device or a mobile telephone. An electronic portrait enables generation of a
10 physical identifier for comparison to the buyer by a seller during a transaction. Upon initiation of a transaction between a buyer and a seller, the personal device establishes a wireless communications link between the personal device and the seller's equipment. The electronic portrait stored
15 within the personal device is transmitted to the seller's equipment where it is used to generate the physical identifier. Alternatively, an identifier enabling access to a remotely stored electronic portrait may be transmitted to the seller. The physical identifier is presented to the
20 seller to enable a comparison of the physical identifier with the particular physical characteristics of the buyer represented by the physical identifier. If the physical identifier matches the buyer, the transaction is completed.

In this manner, a seller is able have a physical confirmation of the authenticity of the buyer in a manner that substantially limits the possibility of fraudulent transactions.

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BRIEF DESCRIPTION OF THE DRAWINGS

A more complete understanding of the method and apparatus of the present invention may be obtained by reference to the following Detailed Description when taken in conjunction with the accompanying Drawings wherein:

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FIGURE 1 is a functional block diagram of a personal device, such as an electronic personal device or a mobile telephone, for implementing the electronic portrait of the present invention; and

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FIGURE 2 is a flow diagram illustrating the process for identifying a buyer using an electronic portrait.

DETAILED DESCRIPTION

Referring now to the drawings, and more particular to FIGURE 1, there is illustrated a functional block diagram of a personal device 10 for implementing an electronic portrait of the present invention. The personal device 10 includes a service module 15 stored within a memory of the personal

device 10. The service module 15 is issued by an issuer which may be an individual or organization responsible for guaranteeing the payment of fees for services or products purchased by the buyer. The issuer can be an ID card provider, payment provider, credit card company, bank, etc. that has an interest in insuring the buyer is properly identified to prevent fraudulent purchases for which the issuer may ultimately bear responsibility.

The service module 15 includes information that describes the relationship between the buyer and the issuer. The service module 15 further includes at least one private key 20 and a certificate 25. The private key 20 is an encryption tool which when combined with a public key received from the seller's equipment 42 enables the personal device 10 to encrypt information transmitted between the personal device 10 and a seller's equipment 42 via a wireless transmission interface 45 (Bluetooth™) using a processing device 30. The certificate 25 includes a public key 35 for use in decryption processes by the processor 30 for data transmitted between the personal device 10 and a seller's equipment 42.

The certificate 25 further includes, or has linked thereto in a secure fashion, a buyer's electronic portrait

40. The electronic portrait 40 is created by an issuer or an agent of the issuer and provides a manner for providing a physical identification of a buyer. The electronic portrait 40 may be stored in a secure fashion to preserve the portrait's integrity and/or confidentiality utilizing cryptographic storage. The electronic portrait may further be digitally signed to provide further security. The buyer's electronic portrait 40 consists of electronically stored information that provides a seller with some manner of physical identifier associating the buyer with the electronically stored information. Examples of physical identifiers include an electronic photo of the buyer, a graphic imprint of the buyer, a mathematical imprint of the buyer, a verbal description of the buyer, an electronic audio imprint of the buyer, an electronic video imprint of the buyer, or any combination of the above or other methods. Rather than being stored within the personal device 10, the electronic portrait 40 may also be stored remotely at a site accessible via the Internet, a Wide Area Network, telephone network, etc. In this case a web site address, telephone number, etc. would direct a merchant to a site storing the full electronic portrait.

Referring now to FIGURE 2, there is illustrated a flow diagram describing a method for a buyer to carry out a purchase utilizing the electronic portrait 40 of the present invention. The buyer and seller are within the same physical location such as a store, market, office or trading room. Once the buyer initiates a transaction at step 50, the buyer is required connect at step 55 their personal device to the seller's equipment 42. The interconnection between the personal device 10 and the seller's equipment 42 may be via a wired connection or a wireless connection. If a wireless/short range wireless connection is used, the connection may comprise, for example, an RF, infrared or Bluetooth™ system connection. In order to establish the connection, the buyer may be required to place their personal device 10 with a shielded area. The shielded area would protect the personal device 10 from establishing a wireless access (Bluetooth™ access) with other devices, this would assure the seller that the electronic portrait 40 received was the electronic portrait from the personal device 10 in the shielded area. Once the personal device 10 is interconnected with the seller's equipment 42, the certificate 25, including the public key 35 and electronic portrait 40, is transmitted at step 60 to the seller's

equipment 40. The transmission of the certificate 25 to the seller's equipment 42 may be automatic, buyer initiated, or seller initiated.

5 Upon receipt of the certificate 25 from the personal device 10, the seller's equipment 42 extracts the public key 35 and electronic portrait 40 from the certificate 25 at step 65. The extracted electronic portrait 40 is used to generate a physical identifier at step 68, and the identifier is presented to the seller at step 70 via some type of visual or audio display means depending upon the form of the electronic portrait. The seller utilizes the physical identifier of the buyer to confirm the identity of the buyer at step 75. If the electronic portrait 40 confirms the identity of the buyer, the transaction may be completed at 15 step 80.

The previous description is of a preferred embodiment for implementing the invention, and the scope of the invention should not necessarily be limited by this description. The scope of the present invention is instead 20 defined by the following claims.